

REMARKS

This communication is in response to the Office Action mailed July 26, 2007. The Office Action first reports that claims 1-4,7,9-12,15,17 and 29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hon et al. (US Patent 5,680,510) in view of Huang et al. ("Whistler: A trainable Text-to-Speech System", 1996).

Referring first to amended claim 1, this claim recites:

1. A speech processing system adapted to receive an input related to one of speech and text and process the input to provide an output related to one of speech and text, the speech processing system accessing a module derived from a phone set having a plurality of phones for a tonal language, the phones being used to model syllables used in the module, the syllables having an initial and final part, wherein at least some of the syllables of the tonal language include a glide, the glide being embodied in the initial, wherein at least some of the syllables of the tonal language include a glide, the glide being embodied in the initial, and wherein the final part comprises a plurality of phones that jointly and implicitly carry the tonal information. (emphasis added)

Applicants respectfully submit that Hon et al. do not teach, suggest or render obvious this speech processing system as amended. In particular, claim 1 has been amended to include the features previously recited in dependent claim 8. Dependent claim 8 was rejected using the combination of references cited with respect to claim 1 and in further view of Chen et al. (US Patent 5,751,905). For the reasons discussed below, Applicants respectfully believe that claim 1 is allowable over the cited combination of references.

Referring first to Hon et al., they describe at column 2, lines 1-7, that each syllable in Mandarin Chinese, "... includes a final and may include an initial. (The phonetic of a syllable is shown in FIG.1) Initials are consonants and finals begin with a vowel or diphthong." See also column 4, lines 31-35. This well-known structure was also discussed in the present application at page 19, lines 11-22, where it is stated that:

As discussed in the Background section above, a base syllable in Chinese can be represented with the following form:

(C) + (G) V (V, N)

where, the first part before "+" is called initials, which mainly consists of consonants, and the parts after "+" are called finals, and where (G), V and (V, N) are called head (glide), body (main) and tail (coda) of finals respectively, and the units in brackets are optional in constructing valid syllables.

However, Hon et al. used the conventional structure of syllables in order to represent and thus obtain models for use in a speech processing system. In particular, at column 6, lines 45-50, Hon et al. state

The speech identifier 36 comprises a plurality of syllable fields. Each syllable field comprises an initial field, a final field, and a tone field. The initial field and final field of a syllable field together define a valid syllable of the tonal language. The tone field stores a representation of the tones which the syllable may have.

Furthermore, Hon et al. state at column 5, lines 30-32 that "The HMM storage 34 holds hidden Markov models of the initials and finals that make up the possible syllables of Mandarin Chinese speech." Thus, it is clear, that Hon et al. disclose and teach models that comprise initials and finals, but more importantly, where the

initials and the finals are of conventional form, for example, where the initial can comprises only a consonant.

In contrast, as stated in the Specification at page 20, lines 1-15

In general, a new phone set, herein called segmental tonal modeling, comprises three parts for each syllable of the form:

CG V1 V2

Where CG corresponds to (C)(G) in the form mentioned above, but includes the glide, thereby yielding a glide-dependent initial. However, use of the word "initial" should not be confused with "initial" as used above since the glide, which was considered part of the final has been now associated with this first part. Assigning the glide to the initial or first part extends the unit inventory from that of the first form.

Thus, although Applicant uses the word "initial" and "final" in the Specification and claims, it is clear that the conventional descriptions of these terms are not being used. Rather, the initial part recited by claim 1 includes glide information that would be part of the "finals" of Hon et al. To clarify this aspect, Applicant have amended claim 1 to include the features previously recited in dependent claim 8.

As indicated above, the Office Action reports that Chen et al. at column 5, lines 42-45 disclose that the glide component can be embodied in the initial. Like the present application, Chen et al. departs from the conventional structure of Hon et al. in order to model syllables (see column 5, lines 39-41 of Chen et al.); however, this structure is not the same as the model used in claim 1. Moreover, the structure recited in claim 1 is

it obvious in view of Chen et al., or in combination with Hon et al.

Referring to column 3, lines 39-41, Chen et al. clearly state that "Each syllable is decomposed into two phonemes of comparable length and complexity which are called preme and tonemes for the first and second phonemes, respectively." In contrast, the final part as recited by claim 1 clearly recites that "the final part comprises a plurality of phones that jointly and implicitly carry the tonal information" (*emphasis added*). Chen et al. do not teach, suggest or render obvious this structure. Rather, as indicated above, Chen et al. use a first phoneme for the preme and a second phoneme for the toneme. Moreover, Hon et al. and Chen et al. can not be combined because the parts of the models are broken or segmented in different locations, and thus, contain different information. Although Chen et al. specifically disclose that the preme can contain a consonant and glide, Hon et al. use the conventional structure where the glide is contained in the "final." Since Hon et al. and Chen et al. put this information in different parts, they are irreconcilable, and thus, can not be combined.

It should be noted that the article by Huang et al. also does not cure the deficiencies of Hon et al. or Chen et al.

In view of the foregoing, Applicants respectfully believe that claim 1 as amended is allowable. Withdrawal of the rejection is respectfully requested.

Independent claim 20, as originally filed, and independent claim 29, as amended, each contain language similar to that discussed above with respect to claim 1 and hence, are also allowable for the reasons discussed above.

It should be noted that independent claim 29 has been amended to recite a computer readable storage media, but otherwise has features similar to that recited in the originally filed method claim. Dependent claims 30-33 have also been added.

Dependent claims 2-15, 17-19, 21-25 and 30-33 depend either from independent claims 1, 20 or 29, and recite further features, that when combined with the independent claims from which they depend, and any intervening claims, are believed also separately patentable. As discussed above, Hon et al. and Chen et al. can not be combined to render the independent claims unpatentable. Since each of these dependent claims add further features to the unique model recited by these claims, they are also separately patentable.

The foregoing remarks are intended to assist the Office in examining the application and in the course of explanation may employ shortened or more specific or variant descriptions of some of the claim language. Such descriptions are not intended to limit the scope of the claims; the actual claim language should be considered in each case. Furthermore, the remarks are not to be considered exhaustive of the facets of the invention which are rendered patentable, being only examples of certain advantageous features and differences, which applicant's attorney chooses to mention at this time. For the foregoing reasons, applicant reserves the right to submit additional evidence showing the distinction between applicant's invention to be unobvious in view of the prior art.

Furthermore, in commenting on the references and in order to facilitate a better understanding of the differences that are expressed in the claims, certain

details of distinction between the same and the present invention have been mentioned, even though such differences do not appear in all of the claims. It is not intended by mentioning any such unclaimed distinctions to create any implied limitations in the claims.

An extension of time for consideration of this response is respectfully requested. An online charge authorization for the extension of time fee is included herewith.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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